PATTERN RECOGNITION

THE JOURNAL OF THE PATTERN RECOGNITION SOCIETY

VOLUME CONTENTS AND AUTHOR INDEX
VOLUME 33 (2000)

PERGAMON

PATTERN RECOGNITION
The Journal of the Pattern Recognition Society

Editor-in-Chief: ROBERT S. LEDLEY
National Biomedical Research Foundation, Georgetown University Medical Center, Washington, DC

Managing Editor: BLAIRE V. MOSSMAN
P.O. Box 13177, Scottsdale, AZ 85267-3177

Associate Editors

KEIICHI ABE, Japan
M. ABDEL-MOTTALEB, U.S.A.
ARUN AGARWAL, India
M. AHMADI, Canada
AKRAM ALDROUBI, U.S.A.
I. ANDREADIS, Greece
MASAYOSHI AOKI, Japan
ROBERT H. ASENDORF, U.S.A.
NIKOS ASIMOPOULOS, U.S.A.
RICHARD A. BALDOCK, U.K.
ABDEL BELAID, France
R. BERGEVIN, Canada
J. ROSS BEVERIDGE, U.S.A.
BIR BHANU, U.S.A.
PRABIR BHATTACHARYA, U.S.A.
ZHAOQI BIAN, China
HORST BISCHOF, Austria
CAROLYN M. BJORKLUND, U.S.A.
I. BLOCH, France
RUUD M. BOLLE, U.S.A.
N. BOURBAKIS, U.S.A.
ALAN C. BOVIK, U.S.A.
KIM L. BOYER, USA
ERNESTO BRIBIESCA, Mexico
ALFRED BRUCKSTEIN, Israel
MICHAEL BUAS, U.S.A.
TERRY CAELLI, Canada
OCTAVIA CAMPS, U.S.A.
VIRGINIO CANTONI, Italy
B. B. CHAUDHURI, India
SU-SHING CHEN, U.S.A.
H. D. CHENG, U.S.A.
RAJ S. CHHIKARA, U.S.A.
PAUL CHEW, USA
LUIGI CINQUE, Italy
RICHARD W. CONNERS, U.S.A.
KNUT CONRADSEN, Denmark
ALBERTO DEL BIMBO, Italy
C. H. DEBRUNNER, USA
KOICHIRO DEGUCHI, Japan
BRUCE DENBY, France
MITA D. DESAI, U.S.A.
A. P. DHAWAN, USA
MICHEL DHOME, France
E. DOUGHERTY, USA
STANLEY DUNN, U.S.A.
MASAKAZU EJIRI, Japan
KURT ENSLEIN, U.S.A.
MARTIN A. FISCHLER, U.S.A.
PATRICK J. FLYNN, U.S.A.
HERBERT FREEMAN, U.S.A.
HIROMICHI FUJISAWA, Japan
JOYDEEP GHOSH, Canada
MARK L. GILLENSON, U.S.A.
LEV GOLDFARB, Canada
D. B. GOLDGOF, U.S.A.
YIFAN GONG, U.S.A.
MARCO GORI, Italy
NIKOLAI GORSKY, Russia
ARDESHIR GOSHTASBY, U.S.A.
V. GOVINDARAJU, U.S.A.
JAMES GRAHAM, U.K.
M. GRAZIA ALBANESI, Italy
WILLIAM Z. GROSKY, U.S.A.
LALIT GUPTA, U.S.A.
ADOLFO GUZMAN, Mexico
EDWIN R. HANCOCK, U.K.
ANDREW J. HANSON, U.S.A.
J. P. HATON, France
HAGIT Z. HEL-OR, Israel
WILLIAM E. HIGGINS, U.S.A.
TIN KAM HO, U.S.A.
WILLIAM A. HOFF, U.S.A.
N. HONDA, Japan
A. GLEN HOUSTON, U.S.A.
JAMES H. HOWARD, JR, U.S.A.
JONATHAN J. HULL, U.S.A.
J. ILLINGWORTH, U.K.
ATSUSHI IMIYA, Japan
HORACE H. S. IP, Hong Kong
ANIL K. JAIN, U.S.A.
RAMESH JAIN, U.S.A.
MARIE-PIERRE JOLLY, U.S.A.
C. KAMBHAMETTU, U.S.A.
ABE KANDEL, USA
MOSHE KAM, U.S.A.
T. KASPARIS, U.S.A.
RANGACHAR KASTURI, U.S.A.
E. KAWAGUCHI, Japan
KLARA KEDEM, Israel
H. R. KESHAVAN, U.S.A.
RAJIV KHOSLA, Australia
A. KHOTANZAD, U.S.A.
N. KIRYATI, Israel
TADAHIRO KITAHASHI, Japan
J. V. KITTLER, U.K.
ROBERT M. KLEYLE, U.S.A.
JACK KOPLOWITZ, U.S.A.
WALTER G. KROPATSCH, Austria
ADAM KRZYZAK, Canada
JAMES S. J. LEE, U.S.A.
SEONG-WHAN LEE, Korea
ALES LEONARDIS, Slovenia
REINER LENZ, Sweden
JIA-GUU LEU, U.S.A.
S. LEVIALDI, Italy
C. C. LI, U.S.A.
XIAOBO LI, Canada
PING LIANG, U.S.A.
MICHAEL LINDENBAUM, Israel
LUCA LOMBARDI, Italy
GUY LORETTE, France
HONG-QIAN LU, U.S.A.
YI LU, U.S.A.
SONG DE MA, China
MICHAEL MAGEE, U.S.A.
ABHIJIT MAHALANOBIS, U.S.A.
HENRI MAITRE, France
JOSE L. MARROQUIN, Mexico
JOHN W. MARTIN, U.S.A.
TAKASHI MATSUYAMA, Japan
PETER MEER, U.S.A.
R. MEHROTRA, U.S.A.
B. M. MEHTRE, India
ROBERT A. MELTER, U.S.A.
MICHIHIKO MINOH, Japan
RICHARD MOORE, U.S.A.
JEAN-VINCENT MOREAU, France
RANDY MOSS, U.S.A.
DAVID MOUNT, U.S.A.
VITTORIO MURINO, Italy
YASUAKI NAKANO, Japan
S. NAYAR, U.S.A.
TIMOTHY NEWMANN, USA
LAWRENCE O'GORMAN, U.S.A.
PATRICK L. ODELL, U.S.A.
STELIOS C. ORPHANOUDAKIS, Greece
Y.-H. PAO, U.S.A.
D. W. PAGLIERONI, USA
SHARATH PANKANTI, U.S.A.
CHAN M. PARK, Korea
M. PAWLAK, Canada
MARCELLO PELILLO, Italy
YUN PENG, U.S.A.
MICHAEL A. PENNA, U.S.A.
JEROME K. PERCUS, U.S.A.
MATTI PIETIKAINEN, Finland
JIM PIPER, U.S.A.
REJEAN PLAMONDON, Canada
TING-CHUEN PONG, Hong Kong
N. RANGANATHAN, U.S.A.
A. RAVISHANKAR RAO, U.S.A.
S. RAUDYS, Lithuania
T. REED, U.S.A.
CELSO RIBEIRO, Brazil
EHUD RIVLIN, Israel
MICHAEL ROBINSON, U.S.A.
A. ROSENFELD, U.S.A.
FRANK H. RUDDLE, U.S.A.
HANAN SAMET, U.S.A.
SIMONE SANTINI, USA
SUDEEP SARKAR, USA
J. SCHUERMANN, Germany
SHOKRI Z. SELIM, Saudi Arabia
ISHWAR K. SETHI, U.S.A.
MUBARAK SHAH, U.S.A.
LINDA G. SHAPIRO, U.S.A.
DINGGANG SHEN, U.S.A.
FRANK Y. SHIH, U.S.A.
M. SHRIDHAR, U.S.A.
JACK SKLANSKY, U.S.A.
ATHANASSIOS SKODRAS, Greece
NIR A. SOCHEN, Israel
MICHAEL SPANN, U.K.
ROHINI SRIHARI, U.S.A.
S. N. SRIHARI, USA
M. D. SRINATH, U.S.A.
LOUISE STARK, U.S.A.
GEORGE STOCKMAN, U.S.A.
CHING Y. SUEN, Canada
KOKICHI SUGIHARA, Japan
SHINICHI TAMURA, Japan
T. N. TAN, U.K.
STEVEN L. TANIMOTO, U.S.A.
JULIAN R. ULLMANN, U.K.
SCOTT UMBAUGH, U.S.A.
M. UNSER, Switzerland
JOHN W. VAN NESS, U.S.A.
ANDREW M. WALLACE, U.K.
T. WAKAHARA, Japan
YUAN-FANG WANG, U.S.A.
HARRY WECHSLER, U.S.A.
MICHAEL WERMAN, Israel
ROLAND WILSON, U.K.
R. C. WILSON, UK
HONG YAN, Australia
YEE-HONG YANG, Canada
N. YOKOYA, Japan
DEAN M. YOUNG, U.S.A.
MARSHALL YOVITS, U.S.A.
DAPENG ZHANG, Hong Kong
SOTIRIOS G. ZIAVRAS, U.S.A.

Published Monthly. © 2000 *Pattern Recognition Society*

Publication information: Pattern Recognition (ISSN 0031-3203). For 2000, Volume 33 is scheduled for publication. Subscription prices are available upon request from the Publisher or from the Regional Sales Office nearest you or from this journal's website: (http://www.elsevier.nl/locate/patcog). Further information is available on this journal and other Elsevier Science products through Elsevier's website: (http://www.elsevier.nl). Subscriptions are accepted on a prepaid basis only and are entered on a calendar year basis. Issues are sent by standard mail (surface within Europe, air delivery outside Europe). Priority rates are available upon request. Claims for missing issues should be made within six months of the date of dispatch.

Advertising information. Advertising orders and enquiries can be sent to: **Europe and ROW**: Rachel Leveson-Gower, Elsevier Science Ltd, Advertising Department, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, UK; phone: (+44) (1865) 843565; fax: (+44) (1865) 843976; e-mail: r.leveson-gower@elsevier.co.uk. **USA and Canada**: Elsevier Science Inc., Mr Tino DeCarlo, 655 Avenue of the Americas, New York, NY 10010-5107, USA; phone: (+1) (212) 633 3815; fax: (+1) (212) 633 3820; e-mail: t.decarlo@elsevier.com. **Japan**: Elsevier Science K.K., Advertising Department, 9-15 Higashi-Azabu 1-chome, Minato-ku, Tokyo 106-0044, Japan; phone: (+81) (3) 5561 5033; fax: (+81) (3) 5561 5047.

Orders, claims, and product enquiries: please contact the Customer Support Department at the Regional Sales Office nearest you: **New York:** Elsevier Science, PO Box 945, New York, NY 10159-0945, USA; phone: (+1) (212) 633 3730 [toll free number for North American customers: 1-888-4ES-INFO (437-4636)]; fax: (+1) (212) 633 3680; e-mail: usinfo-f@elsevier.com. **Amsterdam:** Elsevier Science, PO Box 211, 1000 AE Amsterdam, The Netherlands; phone: (+31) 20 4853757; fax: (+31) 20 4853432; e-mail: nlinfo-f@elsevier.nl. **Tokyo:** Elsevier Science, 9-15 Higashi-Azabu 1-chome, Minato-ku, Tokyo 106-0044, Japan; phone: (+81) (3) 5561 5033; fax: (+81) (3) 5561 5047; e-mail: info@elsevier.co.jp. **Singapore:** Elsevier Science, No. 1 Temasek Avenue, # 17-01 Millenia Tower, Singapore 039192; phone: (+65) 434 3727; fax: (+65) 337 2230; e-mail: asiainfo@elsevier.com.sg. **Rio de Janeiro:** Elsevier Science, Rua Sete de Setembro 111/16 Andar, 20050-002 Centro, Rio de Janeiro – RJ, Brazil; phone: (+55) (21) 509 5340; fax: (+55) (21) 507 1991; e-mail: elsevier@campus.com.br [Note (Latin America): for orders, claims and help desk information, please contact the Regional Sales Office in New York as listed above.]

Periodicals postage paid at Rahway, New Jersey. Pattern Recognition (ISSN 0031-3203) is published monthly, (January to December) by Elsevier Science Ltd., The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, UK. The annual subscription in the USA is $1935.00.
Pattern Recognition is circulated by Mercury Airfreight International, 365 Blair Road, Avenel, NJ 07001, USA.
POSTMASTER: Please send address corrections to: Pattern Recognition, c/o Customer Services, Elsevier Science Inc., 655 Avenue of the Americas, NY 10010, USA.

VOLUME CONTENTS

Number 1

D. Zhou, G. Liu and J. Wang	1	Spatio-temporal target identification method of high-range resolution radar
F. Coenen	9	Tesseral spatio-temporal reasoning for multi-dimensional data
M. Kudo and J. Sklansky	25	Comparison of algorithms that select features for pattern classifiers
M. Pietikäinen, T. Ojala and Z. Xu	33	Rotation-invariant texture classification using feature distributions
G. Pajares, J. M. de la Cruz and J. A. López-Orozco	53	Relaxation labeling in stereo image matching
Zs. M. Kovács-Vajna, R. Rovatti and M. Frazzoni	69	Fingerprint ridge distance computation methodologies
N. A. Borghese and P. Cerveri	81	Calibrating a video camera pair with a rigid bar
K. Shiranita, K. Hayashi, A. Otsubo, T. Miyajima and R. Takiyama	97	Grading meat quality by image processing
P. K. Saha and A. Rosenfeld	105	Determining simplicity and computing topological change in strongly normal partial tilings of R^2 or R^3
A. Malaviya and L. Peters	119	Fuzzy handwriting description language: FOHDEL
J. Hu, S. G. Lim and M. K. Brown	133	Writer independent on-line handwriting recognition using an HMM approach
H. E. S. Said, T. N. Tan and K. D. Baker	149	Personal identification based on handwriting
T-E. Kim, H-K. Hong and J-S. Choi	161	Estimation of hybrid reflectance properties and shape reconstruction using the LMS method

Rapid and Brief Communications

S. Pereira and Thierry Pun	173	An iterative template matching algorithm using the Chirp-Z transform for digital image watermarking

Number 2

Y. Baram	177	A geometric approach to consistent classification
R. Lotlikar and R. Kothari	185	Adaptive linear dimensionality reduction for classification
Y-K. Chen and J-F. Wang	195	Skew detection and reconstruction based on maximization of variance of transition-counts

J. Hornegger, H. Niemann and R. Risack	209	Appearance-based object recognition using optimal feature transforms
J. Sauvola and M. Pietikäinen	225	Adaptive document image binarization
S-I. Chien and S-H. Sung	237	Adaptive window method with sizing vectors for reliable correlation-based target tracking
T. Suk and J. Flusser	251	Point-based projective invariants
X. Liu, D. L. Wang and J. R. Ramirez	263	Boundary detection by contextual non-linear smoothing
C. H. Li and P. K. S. Tam	281	A global energy approach to facet model and its minimization using weighted least-squares algorithm
S. R. Kundur and D. Raviv	295	Active vision-based control schemes for autonomous navigation tasks
T. Pham and M. Wagner	309	Similarity normalization for speaker verification by fuzzy fusion
C. L. Wilson, C. I. Watson and E. G. Paek	317	Effect of resolution and image quality on combined optical and neural network fingerprint matching
T. F. Li	333	Bayes empirical Bayes approach to unsupervised learning of parameters in pattern recognition
H. Z. Shu, L. M. Luo, W. X. Yu and Y. Fu	341	A new fast method for computing Legendre moments
Errata	349	
	350	
Announcements	I	

Number 3

M. Kundu, M. Nasipuri and D. K. Basu	351	Knowledge-based ECG interpretation: a critical review
K-F. Chan and D-Y. Yeung	375	An efficient syntactic approach to structural analysis of on-line handwritten mathematical expressions
E. N. Zois and V. Anastassopoulos	385	Morphological waveform coding for writer identification
K. Jung and H. J. Kim	399	On-line recognition of cursive Korean characters using graph representation
B. S. Song, H. D. Yun and S. U. Lee	413	A target recognition technique employing geometric invariants
H-S. Wong, T. Caelli and L. Guan	427	A model-based neural network for edge characterization
D. F. Dunn and N. E. Mathew	445	Extracting color halftones from printed documents using texture analysis

A. Branca, E. Stella and A. Distante 465 Feature matching constrained by cross ratio invariance

M. Boshra and H. Zhang 483 Localizing a polyhedral object in a robot hand by integrating visual and tactile data

J. Liu and A. K. Jain 503 Image-based form document retrieval

M. K. Ng 515 A note on constrained k-means algorithms

K. Hattori and M. Takahashi 521 A new edited k-nearest neighbor rule in the pattern classification problem

Rapid and Brief Communication Paper

J. Y. Goulermas and P. Liatsis 529 A new parallel feature-based stereo-matching algorithm with figural continuity preservation, based on hybrid symbiotic genetic algorithms

Number 4

SPECIAL ISSUE: ENERGY MINIMIZATION METHODS IN COMPUTER VISION AND PATTERN RECOGNITION

E. R. Hancock and M. Pelillo 533 Editorial

D. A. Miller and S. W. Zucker 535 Cliques, computation, and computational tractability

K. K. Thornber and L. R. Williams 543 Characterizing the distribution of completion shapes with corners using a mixture of random processes

R. Molina, A. K. Katsaggelos, J. Mateos, A. Hermoso and C. A. Segall 555 Restoration of severely blurred high range images using stochastic and deterministic relaxation algorithms in compound Gauss–Markov random fields

P. Pérez, A. Chardin and J.-M. Laferté 573 Noniterative manipulation of discrete energy-based models for image analysis

S. A. Barker and P. J. W. Rayner 587 Unsupervised image segmentation using Markov random field models

A. L. Yuille and J. M. Coughlan 603 An A* perspective on deterministic optimization for deformable templates

J. Puzicha, T. Hofmann and J. M. Buhmann 613 A theory of proximity based clustering: structure detection by optimization

A. Rangarajan 635 Self-annealing and self-annihilation: unifying deterministic annealing and relaxation labeling

H. Klock and J. M. Buhmann 651 Data visualization by multidimensional scaling: a deterministic annealing approach

Y. Zhong and A. K. Jain 671 Object localization using color, texture and shape

R. Myers and E. R. Hancock 685 Genetic algorithms for ambiguous labelling problems

J. Kittler 705 Probabilistic relaxation and the Hough transform

S. Z. Li 715 Toward global solution to MAP image restoration and segmentation: using common structure of local minima

M. Gelgon and P. Bouthemy 725 A region-level motion-based graph representation and labeling for tracking a spatial image partition

Number 5

K. S. Roh and I. S. Kweon 741 3-D object recognition using a new invariant relationship by single-view

E. Bribiesca 755 A chain code for representing 3D curves

K-P. Han, T-M. Bae and Y-H. Ha 767 Hybrid stereo matching with a new relaxation scheme of preserving disparity discontinuity

Y. Yang and H. Yan 787 An adaptive logical method for binarization of degraded document images

H. D. Cheng and H. Xu 809 A novel fuzzy logic approach to contrast enhancement

A. Garrido, N. P. de la Blanca 821 Applying deformable templates for cell image segmentation

S. J. Roberts, R. Everson and I. Rezek 833 Maximum certainty data partitioning

S. Kundu 841 A better fitness measure of a text-document for a given set of keywords

C. S. Sung and H. W. Jin 849 A tabu-search-based heuristic for clustering

S. K. Mitra and C. A. Murthy 859 Mathematical framework to show the existence of attractor of partitioned iterative function systems

Rapid and Brief Communication Paper

B. S. Boufama 871 Using geometry towards stereo dense matching

Number 6

SPECIAL ISSUE: MATHEMATICAL MORPHOLOGY & NONLINEAR IMAGE PROCESSING

I. Andreadis 875 Editorial

J. B. T. M. Roerdink 877 Group morphology

I. Bloch	897	Geodesic balls in a fuzzy set and fuzzy geodesic mathematical morphology
A. Bieniek and A. Moga	907	An efficient watershed algorithm based on connected components
F. Cheng and A. N. Venetsanopoulos	917	Adaptive morphological operators, fast algorithms and their applications
P. D. Gader, M. A. Khabou and A. Koldobsky	935	Morphological regularization neural networks
L. F. C. Pessoa and P. Maragos	945	Neural networks with hybrid morphological/rank/linear nodes: a unifying framework with applications to handwritten character recognition
S. Saryazdi, V. Haese-Coat and J. Ronsin	961	Image representation by a new optimal non-uniform morphological sampling
A. V. Tuzikov, J. B. T. M. Roerdink and H. J. A. M. Heijmans	979	Similarity measures for convex polyhedra based on Minkowski addition
J. G. M. Schavemaker, M. J. T. Reinders, J. J. Gerbrands and E. Backer	997	Image sharpening by morphological filtering
A. Gasteratos and I. Andreadis	1013	Non- linear image processing in hardware
S. Vlassis, K. Doris, S. Siskos and I. Pitas	1023	Analog implementation of erosion/dilation, median and order statistics filters
D. G. Jones and P. T. Jackway	1033	Granolds: a novel texture representation
S. Batman, E. R. Dougherty and F. Sand	1047	Heterogeneous morphological granulometries
N. S. T. Hirata, E. R. Dougherty and J. Barrera	1059	A switching algorithm for design of optimal increasing binary filters over large windows
A. Aubert and D. Jeulin	1083	Estimation of the influence of second- and third-order moments on random sets reconstructions
A. L. Kesidis and N. Papamarkos	1105	A window-based inverse Hough transform

Number 7

S. K. Mitra, C. A. Murthy and M. K. Kundu	1119	A technique for image magnification using partitioned iterative function system
D.-S. Jang and H.-I. Choi	1135	Active models for tracking moving objects
E. L'Homer	1147	Extraction of strokes in handwritten characters
M. A. Grudin	1161	On internal representations in face recognition systems

X. R. Fdez-Vidal, R. Rodriguez-Sanchez, J.A. Garcia and J. Fdez-Valdivia 1179 Integral opponent-colors features for computing visual target distinctness

W. S. Kim and H. S. Cho 1199 Learning-based constitutive parameters estimation in an image sensing system with multiple mirrors

M. Ménard, C. Demko and P. Loonis 1219 The fuzzy c + 2-means: solving the ambiguity rejection in clustering

Y. V. Venkatesh and N. Rishikesh 1239 Self-organizing neural networks based on spatial isomorphism for active contour modeling

L. Y. Tseng and S. B. Yang 1251 A genetic clustering algorithm for data with non-spherical-shape clusters

Rapid and Brief Communication

E. Kavallieratou, N. Fakotakis and G. Kokkinakis 1261 A slant removal algorithm

Number 8

Y.-I. Chang, H.-Y. Ann and W.-H. Yeh 1263 A unique-ID-based matrix strategy for efficient iconic indexing of symbolic pictures

Y. Yang, H. Yan and D. Yu 1277 Content-lossless document image compression based on structural analysis and pattern matching

J. M. M. Montiel, J. D. Tardós and L. Montano 1295 Structure and motion from straight line segments

A. Amin 1309 Recognition of printed arabic text based on global features and decision tree learning techniques

A. López and F. Pla 1325 Dealing with segmentation errors in region-based stereo matching

C. V. Jawahar, P. K. Biswas and A. K. Ray 1339 Analysis of fuzzy thresholding schemes

M. Boshra and M. A. Ismail 1351 Recognition of occluded polyhedra from range images

N. Oliver, A. Pentland and F. Bérard 1369 LAFTER: a real-time face and lips tracker with facial expression recognition

G. Cong and B. Parvin 1383 Model-based segmentation of nuclei

B. Wang and Z. He 1395 Can the classification capability of network be further improved by using quadratic sigmoidal neurons?

Rapid and Brief Communication

S.-Y. Lung and C.-C. T. Chen 1401 A new approach for text-independent speaker recognition

Number 9

J. Flusser 1405 On the independence of rotation moment invariants

Y.-H. Gu and T. Tjahjadi 1411 Coarse-to-fine planar object identification using invariant curve features and B-spline modeling

M. Melkemi and M. Djebali 1423 Computing the shape of a planar points set

J. Fayolle, L. Riou and C. Ducottet 1437 Robustness of a multiscale scheme of feature points detection

U. Maulik and S. Bandyopadhyay 1455 Genetic algorithm-based clustering technique

M. Ichino and H. Yaguchi 1467 An apparent simplicity appearing in pattern classification problems

D. M. J. Tax, M. van Breukelen, R. P. W. Duin and J. Kittler 1475 Combining multiple classifiers by averaging or by multiplying?

I. Bloch 1487 On links between mathematical morphology and rough sets

V. Ramasubramanian and K. K. Paliwal 1497 Fast nearest-neighbor search algorithms based on approximation-elimination search

G. Fielding and M. Kam 1511 Weighted matchings for dense stereo correspondence

D. Maio and D. Maltoni 1525 Real-time face location on gray-scale static images

A. Nakamura and A. Rosenfeld 1541 Digital knots

C. Clausen and H. Wechsler 1555 Color image compression using PCA and backpropagation learning

Q. Ji, J. Engel and E. Craine 1561 Classifying cervix tissue patterns with texture analysis

K. C. Yao, M. Mignotte, C. Collet, P. Galerne and G. Burel 1575 Unsupervised segmentation using a self-organizing map and a noise model estimation in sonar imagery

Number 10

R. E. Frye and R. S. Ledley 1585 Texture discrimination using discrete cosine transformation shift-insensitive (DCTSIS) descriptors

E. Ribeiro and E. R. Hancock 1599 Improved orientation estimation for texture planes using multiple vanishing points

E. Morales and F. Y. Shih	1611	Wavelet coefficients clustering using morphological operations and pruned quadtrees
E. A. El-Kwae and M. R. Kabuka	1621	Binary object representation and recognition using the Hilbert morphological skeleton transform
F. K. H. Quek	1637	An algorithm for the rapid computation of boundaries of run-length encoded regions
N. E. Davison, H. Eviatar and R. L. Somorjai	1651	Snakes simplified
K. Inoue and K. Urahama	1665	Learning of view-invariant pattern recognizer with temporal context
Z. Pizlo and K. Loubier	1675	Recognition of a solid shape from its single perspective image obtained by a calibrated camera
R. Singh and N. P. Papanikolopoulos	1683	Planar shape recognition by shape morphing
C.-C. Han, H.-Y. M. Liao, G.-J. Yu and L.-H. Chen	1701	Fast face detection via morphology-based pre-processing
L.-F. Chen, H.-Y.M. Liao, M.-T. Ko, J.-C. Lin and G.-J. Yu	1713	A new LDA-based face recognition system which can solve the small sample size problem
M. A. Ismail and S. Gad	1727	Off-line arabic signature recognition and verification
H. Brunzell and J. Eriksson	1741	Feature reduction for classification of multidimensional data
Q. H. He, S. Kwong, K. F. Man and K. S. Tang	1749	An improved maximum model distance approach for HMM-based speech recognition systems
L. Gupta, M. McAvoy and J. Phegley	1759	Classification of temporal sequences via prediction using the simple recurrent neural network

Number 11

B. Moghaddam, T. Jebara and A. Pentland	1771	Bayesian face recognition
A. Nikolaidis and I. Pitas	1783	Facial feature extraction and pose determination
K. C. Fan, C. W. Liu and Y. K. Wang	1793	A randomized approach with geometric constraints to fingerprint verification
M. Yeasin and S. Chaudhuri	1805	Visual understanding of dynamic hand gestures
T.-I. Hsu, J. L. Kuo and R. Wilson	1819	A multiresolution texture gradient method for unsupervised segmentation
D. A. Clausi and M. E. Jernigan	1835	Designing Gabor filters for optimal texture separability

Y. Zhang and M. D. Desai 1851 Hyperspectral image compression based on adaptive recursive bidirection prediction/JPEG

A. D. J. Cross, R. Myers and E. R. Hancock 1863 Convergence of a hill-climbing genetic algorithm for graph matching

K.-C. Fan and W.-H. Wu 1881 A run-length-coding-based approach to stroke extraction of Chinese characters

A. Torsello and M. Pelillo 1897 Continuous-time relaxation labeling processes

D. Shen, H. H. S. Ip and E. K. Teoh 1909 Affine invariant detection of perceptually parallel 3D planar curves

L. Wang, J. Liu and S. Z. Li 1919 MRF parameter estimation by MCMC method

Rapid and Brief Communications

S. V. N. Vishwanathan and M. N. Murty 1927 Kohonen's SOM with cache

S. A. Rizvi, T. N. Saadawi and N. M. Nasrabadi 1931 A clutter rejection technique for FLIR imagery using region based principal component analysis

Number 12

C. Kotropoulos, A. Tefas and I. Pitas 1935 Morphological elastic graph matching applied to frontal face authentication under well-controlled and real conditions

S. Y. Yuen and C. H. Ma 1949 Genetic algorithm with competitive image labelling and least square

X. Wang, V. Govindaraju and S. Srihari 1967 Holistic recognition of handwritten character pairs

M. Ahmed and R. K. Ward 1975 An expert system for general symbol recognition

Š. Raudys 1989 Scaled rotation regularization

S. Bermejo and J. Cabestany 1999 Adaptive soft k-nearest-neighbour classifiers

R. Rodriguez-Sanchez, J. A. Garcia, J. Fdez-Valdivia and X. R. Fdez-Vidal 2007 Origins of illusory percepts in digital images

L. M. Kennedy and M. Basu 2019 Application of projection pursuit learning to boundary detection and deblurring in images

J. Turski 2033 Projective Fourier analysis for patterns

A. R. Webb 2045 Gamma mixture models for target recognition

J.-G. Leu 2055 Image enlargement based on a step edge model

L. Gupta and M. McAvoy 2075 Investigating the prediction capabilities of the simple recurrent neural network on real temporal sequences

A. Ferrari, M. Borgatti and R. Guerrieri 2083 A complete system for NN classification based on a VLSI array processor

Rapid and Brief Communications

S.-H. Choi and S.-W. Lee 2095 Region tracking using perspective motion model

G. Fumera, F. Roli and G. Giacinto 2099 Reject option with multiple thresholds